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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,284	12/26/2000	Gene R. Anderson	1613370-0005	5815

7470 7590 03/12/2003

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EXAMINER

VALENTIN, JUAN D

ART UNIT PAPER NUMBER

2877

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/749,284	Applicant(s) ANDERSON ET AL.	
	Examiner Juan D Valentin II	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-144 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-95 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 96-117 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>6, 8</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-95 and 118-144 rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al. (USPN '996 B1, hereinafter Miura) in view of Simonis et al. (1Gb/s VCSEL, hereinafter Somonis).

Claim 1

Miura discloses an optoelectronic connector comprising a mounting surface, an array of optoelectronic devices adapted to the mounting surface, the optoelectronic devices having at least a first end (abstract). Miura discloses an array of optical elements, the array of optical elements having at least a first end, the first end of the array of optical elements positioned relative to the first end of the array of optoelectronic devices in such a manner that one or more optical elements is optically aligned to one or more optoelectronic devices (Fig. 1, ref. 26, and 10). Miura further discloses an adhesive dispensed between the first end of the array of optoelectronic devices and the first end of the array of optical elements, wherein the adhesive contacts the first end of the array of optoelectronic devices and the first end of the array of optical elements (Fig. 1, ref. 26, 10 and 18, col. 5, lines 7-54).

Miura substantially teaches the claimed invention except that it fails to show an array of optical elements and an array of optoelectronic devices. Simonis shows that it is known to

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provide an array of optical elements and optoelectronic devices (pg. 3, paragraph 3) for an optical inter connect. It would have been obvious to someone of ordinary skill in the art to combine the device of Miura with the array of optical elements and optoelectronic devices of Simonis for the purposes of providing high bandwidth and high-density optical computing.

Claims 2-24

The dependant claims are all obvious and well known to someone of ordinary skill in the art. The reference of Miura in view of Simonis discloses gel like epoxy optical adhesives and a second adhesive surrounding the array of optical elements (Miura, col. 5, lines 7-41), it is obvious and well known in the art that UV optical adhesive is a form of epoxy resin. It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion yet enable to flow freely through the module to the optical array devices. Miura in view of Simonis further disclose photodetectors and printed circuit boards (Simonis, pg. 3, third paragraph), oxide vertical cavity emitting lasers (VCSEL) (Simonis, abstract), use of ferrules, driver close to optical array (Simonis, Fig. 4), and optical elements disposed within the various interconnect configurations. It is obvious and well known to someone of ordinary skill in the art to use flexible printed circuit boards in optical modules. Miura in view of Simonis discloses the claimed invention except it fails to show a ferrule having a recess in it. It would have been obvious matter of design choice to someone of ordinary skill in the art to combine Miura in view of Simonis with a recess in order to save space. Miura in view of Simonis further discloses a dam adapted to the mounting surface surrounding the array of optical elements (Miura, col. 10, lines 52-59, Fig. 24). It is

obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion. Therefore, it is the position of the Office that the reference of Miura in view of Simonis reads upon the Applicants claimed limitations.

Claim 25

Miura discloses an optoelectronic connector comprising a mounting surface, an array of optoelectronic devices adapted to the mounting surface, the optoelectronic devices having at least a first end (abstract). Miura discloses an array of optical elements, the array of optical elements having at least a first end, the first end of the array of optical elements positioned relative to the first end of the array of optoelectronic devices in such a manner that one or more optical elements is optically aligned to one or more optoelectronic devices (Fig. 1, ref. 26, and 10). Miura further discloses a first non-opaque material dispensed between the first end of the array of optoelectronic devices and the first end of the array of optical elements, wherein the first nonopaque material contacts the first end of the array of optoelectronic devices and the first end of the array of optical elements (Fig. 1, ref. 26, 10 and 18, col. 5, lines 7-54).

Miura substantially teaches the claimed invention except that it fails to show an array of optical elements and an array of optoelectronic devices. Simonis shows that it is known to provide an array of optical elements and optoelectronic devices (pg. 3, paragraph 3) for an optical inter connect. It would have been obvious to someone of ordinary skill in the art to combine the device of Miura with the array of optical elements and optoelectronic devices of Simonis for the purposes of providing high bandwidth and high-density optical computing.

Claims 26-49

The dependant claims are all obvious and well known to someone of ordinary skill in the art. The reference of Miura in view of Simonis discloses a non-opaque epoxy optical adhesives and a second adhesive surrounding the array of optical elements (Miura, col. 5, lines 7-41), it is obvious and well known in the art that UV optical adhesive is a form of epoxy resin. It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion yet enable to flow freely through the module to the optical array devices. Miura in view of Simonis further disclose photodetectors and printed circuit boards (Simonis, pg. 3, third paragraph), oxide vertical cavity emitting lasers (VCSEL) (Simonis, abstract), use of ferrules, driver close to optical array (Simonis, Fig. 4), and optical elements disposed within the various interconnect configurations. It is obvious and well known to someone of ordinary skill in the art to use flexible printed circuit boards in optical modules. Miura in view of Simonis discloses the claimed invention except it fails to show a ferrule having a recess in it. It would have been obvious matter of design choice to someone of ordinary skill in the art to combine Miura in view of Simonis with a recess in order to save space. Miura in view of Simonis further discloses a dam adapted to the mounting surface surrounding the array of optical elements (Miura, col. 10, lines 52-59, Fig. 24). It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion. Therefore, it is the

position of the Office that the reference of Miura in view of Simonis reads upon the Applicants claimed limitations.

Claim 50

Miura discloses an optoelectronic connector comprising a mounting surface, an array of optoelectronic devices adapted to the mounting surface, the optoelectronic devices having at least a first end (abstract). Miura discloses an array of optical elements, the array of optical elements having at least a first end, the first end of the array of optical elements positioned relative to the first end of the array of optoelectronic devices in such a manner that one or more optical elements is optically aligned to one or more optoelectronic devices (Fig. 1, ref. 26, and 10). Miura further discloses a solidifying material surrounding at least the array of optical elements, the solidifying material capable of mechanically stabilizing the array of optical elements to the mounting surface (Fig. 1, ref. 26, 10 and 18, col. 5, lines 7-54).

Miura substantially teaches the claimed invention except that it fails to show an array of optical elements and an array of optoelectronic devices. Simonis shows that it is known to provide an array of optical elements and optoelectronic devices (pg. 3, paragraph 3) for an optical inter connect. It would have been obvious to someone of ordinary skill in the art to combine the device of Miura with the array of optical elements and optoelectronic devices of Simonis for the purposes of providing high bandwidth and high-density optical computing.

Claims 51-70

The dependant claims are all obvious and well known to someone of ordinary skill in the art. The reference of Miura in view of Simonis discloses solidifying material capable of providing moisture or electrical shielding. (Miura, col. 5, lines 7-41), it is obvious and well

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known in the art that a UV optical adhesive is a form of epoxy resin. It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be attenuators and insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion yet enable to flow freely through the module to the optical array devices. Miura in view of Simonis further disclose photodetectors and printed circuit boards (Simonis, pg. 3, third paragraph), oxide vertical cavity emitting lasers (VCSEL) (Simonis, abstract), use of ferrules, driver close to optical array (Simonis, Fig. 4), and optical elements disposed within the various interconnect configurations. It is obvious and well known to someone of ordinary skill in the art to use flexible printed circuit boards in optical modules. Miura in view of Simonis discloses the claimed invention except it fails to show a ferrule having a recess in it. It would have been obvious matter of design choice to someone of ordinary skill in the art to combine Miura in view of Simonis with a recess in order to save space. Miura in view of Simonis further discloses a dam adapted to the mounting surface surrounding the array of optical elements (Miura, col. 10, lines 52-59, Fig. 24). Therefore, it is the position of the Office that the reference of Miura in view of Simonis reads upon the Applicants claimed limitations.

Claim 71

Miura discloses an optoelectronic connector comprising a mounting surface, an array of optoelectronic devices adapted to the mounting surface, the optoelectronic devices having at least a first end (abstract). Miura discloses an array of optical elements, the array of optical elements having at least a first end, the first end of the array of optical elements positioned relative to the first end of the array of optoelectronic devices in such a manner that one or more

optical elements is optically aligned to one or more optoelectronic devices (Fig. 1, ref. 26, and 10). Miura further discloses a gap formed between the first end of the array of optoelectronic devices and the first end of the array of optical elements (Fig. 1, ref. 26, 10 and 18, col. 5, lines 30-41).

Miura substantially teaches the claimed invention except that it fails to show an array of optical elements and an array of optoelectronic devices. Simonis shows that it is known to provide an array of optical elements and optoelectronic devices (pg. 3, paragraph 3) for an optical inter connect. It would have been obvious to someone of ordinary skill in the art to combine the device of Miura with the array of optical elements and optoelectronic devices of Simonis for the purposes of providing high bandwidth and high-density optical computing.

Claims 71-94

The dependant claims are all obvious and well known to someone of ordinary skill in the art. The reference of Miura in view of Simonis discloses solidifying material capable of providing moisture or electrical shielding. (Miura, col. 5, lines 7-41), it is obvious and well known in the art that a UV optical adhesive is a form of epoxy resin. It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion yet enable to flow freely through the module to the optical array devices. It is obvious and well known in the art that when aligning optical devices to any form of waveguide without physically connecting them, a gap will be created in order to maximize coupling efficiencies within the optical system. Miura in view of Simonis further disclose photodetectors and printed circuit boards (Simonis, pg. 3, third paragraph), oxide

vertical cavity emitting lasers (VCSEL) (Simonis, abstract), use of ferrules, driver close to optical array (Simonis, Fig. 4), and optical elements disposed within the various interconnect configurations. It is obvious and well known to someone of ordinary skill in the art to use flexible printed circuit boards in optical modules. Miura in view of Simonis discloses the claimed invention except it fails to show a ferrule having a recess in it. It would have been obvious matter of design choice to someone of ordinary skill in the art to combine Miura in view of Simonis with a recess in order to save space. Miura in view of Simonis further discloses a dam adapted to the mounting surface surrounding the array of optical elements (Miura, col. 10, lines 52-59, Fig. 24). Therefore, it is the position of the Office that the reference of Miura in view of Simonis reads upon the Applicants claimed limitations.

Claim 118

Miura discloses an optoelectronic connector comprising a mounting surface, an array of optoelectronic devices adapted to the mounting surface, the optoelectronic devices having at least a first end (abstract). Miura discloses an array of optical elements, the array of optical elements having at least a first end, the first end of the array of optical elements positioned relative to the first end of the array of optoelectronic devices in such a manner that one or more optical elements is optically aligned to one or more optoelectronic devices (Fig. 1, ref. 26, and 10). Miura further discloses a spacer (sleeve) adapted to the mounting surface, a first end of the spacer proximate to the first end of the array of optical elements (Fig. 1, ref. 26, 10 and 18, col. 5, lines 7-54).

Miura substantially teaches the claimed invention except that it fails to show an array of optical elements and an array of optoelectronic devices. Simonis shows that it is known to

provide an array of optical elements and optoelectronic devices (pg. 3, paragraph 3) for an optical inter connect. It would have been obvious to someone of ordinary skill in the art to combine the device of Miura with the array of optical elements and optoelectronic devices of Simonis for the purposes of providing high bandwidth and high-density optical computing.

Claims 119-144

The dependant claims are all obvious and well known to someone of ordinary skill in the art. The reference of Miura in view of Simonis discloses gel like epoxy optical adhesives and a second adhesive surrounding the array of optical elements and part of the spacer (Miura, col. 5, lines 7-41), it is obvious and well known in the art that a UV optical adhesive is a form of epoxy resin. It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion yet enable to flow freely through the module to the optical array devices. It is obvious and well known in the art that when aligning optical devices to any form of waveguide without physically connecting them, a gap will be created in order to maximize coupling efficiencies within the optical system. Miura in view of Simonis further disclose photodetectors and printed circuit boards (Simonis, pg. 3, third paragraph), oxide vertical cavity emitting lasers (VCSEL) (Simonis, abstract), use of ferrules, driver close to optical array (Simonis, Fig. 4), and optical elements disposed within the various interconnect configurations. It is obvious and well known to someone of ordinary skill in the art to use flexible printed circuit boards in optical modules. Miura in view of Simonis discloses the claimed invention except it fails to show a ferrule having a recess in it. It would have been obvious matter of design choice to someone of ordinary skill in the art to combine

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Miura in view of Simonis with a recess in order to save space. Miura in view of Simonis further discloses a dam adapted to the mounting surface surrounding the array of optical elements (Miura, col. 10, lines 52-59, Fig. 24). Therefore, it is the position of the Office that the reference of Miura in view of Simonis reads upon the Applicants claimed limitations.\

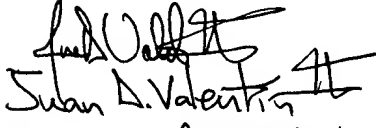
Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan D Valentin II whose telephone number is (703) 605-4226.

The examiner can normally be reached on M-Th., Every other Fr..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308- 0955.


Juan D. Valentin II
Examiner A.U. 2877
JDV
March 4, 2003


Michael P. Staffra
Primary Patent Examiner
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